

A N T H E M

CONTENTS

	page
Parts List	1
Front & Rear Panels	2
Control Functions	3
Connection Functions.....	3
Setting Up.....	4
Bridged Mono Operation	5
Tube Insertion.....	6
Operation	6
Troubleshooting.....	7
Safety Instructions	8
Disclaimer of Liability.....	8
Warranty.....	9
Technical Specifications.....	10



We at Sonic Frontiers International hope you will derive many years of listening pleasure with your new Anthem Amp 2. This Operating Manual contains important information regarding the operation and care of the Amp 2. Be sure to read this manual carefully and follow these instructions in order to keep your unit performing and sounding its best. Please contact Sonic Frontiers if you have any questions, a Customer Service Representative will be pleased to assist you.

WHAT'S IN THE BOX?

In addition to the Amp 2, it's cover, and the operating manual you are presently reading (with associated inserts and warranty card), there are a few more items to take inventory of before steps are taken to make the Anthem Amp 2 operational.

- These items are:
- 2 6DJ8/6922 tubes
 - a glove for handling the tubes
 - a detachable AC power cord
 - a handful of Phillips screws
 - a Phillips screwdriver

After completing an inventory of these items, proceed to the next steps.

TECHNICAL SPECIFICATIONS

INPUTS (2)	line level inputs, are unbalanced gold plated RCA jacks
OUTPUTS (2)	Main Power Amp outputs are IEC approved binding posts spaced on 1" centers for easy installation of large gauge speaker cables
SWITCHES (2)	Front panel main power switch Rear panel mounted Stereo/Bridged Mono switch
TUBE COMPLEMENT	(2) 6DJ8/6922
POWER REQUIREMENTS	120VAC 60Hz (Domestic) 220-240VAC 50/60Hz (Export) 100VAC 50/60Hz (Japan)
POWER CONSUMPTION	1550VA
DIMENSIONS	19" (48cm) W x 5.25" (13.5cm) H x 16" (50cm) D
NET WEIGHT	45lbs (20.5kg) unpacked
RATED POWER	200 Watts per channel continuous into 8 Ohms or 300 Watts per channel continuous into 4 Ohms both channels driven, from 20Hz to 20kHz with 0.1% THD+N
FREQUENCY RESPONSE	+0.0 -0.5 dB 2Hz to 140kHz (1W)
POWER BANDWIDTH	<1Hz to >180kHz -3dB
SIGNAL TO NOISE RATIO	-90 dB, IEC A weighted ref 1W -100 dB, IEC A weighted ref 200W
THD+N	0.1% 20Hz to 20kHz at rated power
IMD	0.05% SMPTE method at rated power
RISE TIME	< 2µSec
SLEW RATE	100VµSec
PHASE POLARITY	Non Inverting
INPUT IMPEDANCE	100k Ohms
OUTPUT IMPEDANCE	80 mOhms
DAMPING FACTOR	90 at 8 Ohms
VOLTAGE GAIN	24dB (16x)
INPUT SENSITIVITY	2.5V for rated output into 8 Ohms

All tests were performed with the Audio Precision System Two.

WARRANTY

LIMITED FIVE YEAR WARRANTY

Sonic Frontiers International warrants to the purchaser that each component is free of manufacturing defects for a period of five (5) years from the date of purchase. This five (5) year limited warranty excludes all vacuum tubes and CD Transport mechanisms, which are warranted for a period of twelve (12) months. To receive this warranty, the original purchaser must complete and mail to Sonic Frontiers International, within thirty (30) days from the date of purchase, the enclosed Warranty Registration Card which validates the warranty. This warranty is subject to the following conditions and limitations:

DISCLAIMER OF LIABILITY

Under no circumstances does Sonic Frontiers International assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it. Sonic Frontiers International reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.

Warranty applies only to the original purchaser and is non-transferable.

This warranty is void and inapplicable if the product has been handled other than in accordance with the instructions of our Owner's Manual, abuse or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being tampered with, modified or repaired by anyone other than Sonic Frontiers International, or an authorized Sonic Frontiers International repair service center.

Warranty does not cover normal maintenance.

Sonic Frontiers International shall not be responsible in any way for consequential or indirect damages or liabilities resulting from the use and operation of the product covered herein or resulting from any breach of this warranty or any implied warranty relating to said product.

During this period, Sonic Frontiers International will repair or replace any defective components free of charge. A Return Authorization Number (RA number) is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping containers for Sonic Frontiers International to accept the return.

Units to be repaired by Sonic Frontiers International must be sent shipping and insurance prepaid by the original purchaser in the original packing material. A returned

product should be accompanied by a written description of the defect. Repaired units will be returned by Sonic Frontiers International shipping and insurance prepaid.

Units shipped to us without a Return Authorization Number or without a visible RA Number on the exterior of the shipping containers will be returned to the sender, freight collect.

All other warranties or conditions either written or implied are void.

Sonic Frontiers International reserves the right to improve the design of any product without assuming any obligation to modify any product previously manufactured. This warranty is in lieu of all other warranties expressed or implied, of merchantability, fitness for any particular purpose and may not be extended or enlarged by anyone. In no event shall Sonic Frontiers International, their agents or representatives be responsible for any incidental or consequential damages. Some jurisdictions do not allow limitations of incidental or consequential damages, so this exclusion may not apply to you.

FREQUENTLY ASKED WARRANTY QUESTIONS

WHAT IS THE DISPLAY WARRANTY?

Display equipment sold by an authorized dealer has a full 5 year Parts & Labor and 30 day Tube & Transport Mechanism warranty (as of the date of the customers invoice) or the balance of the 1 year Tube & Transport Mechanism warranty (as of the date of the dealer invoice) - which ever is longer.

WHAT IS THE USED EQUIPMENT WARRANTY?

The balance of the 5 year Parts & Labor and 1 year Tube & Transport Mechanism warranty can be transferred on used equipment only IF the unit is traded in to an authorized Sonic Frontiers/Anthem Dealer. An authorized SF/ Anthem dealer can resell the unit with the remaining warranty if it is cosmetically acceptable, in perfect working condition, and has not been internally or externally altered in any way. We ask that the dealers call the factory and advise us of the serial number of the unit to register the warranty of the new owner.

WHAT IS THE USED EQUIPMENT WARRANTY - FROM A NON-AUTHORIZED DEALER?

Used equipment purchased from a non-authorized dealer or private sale has no SFI warranty.

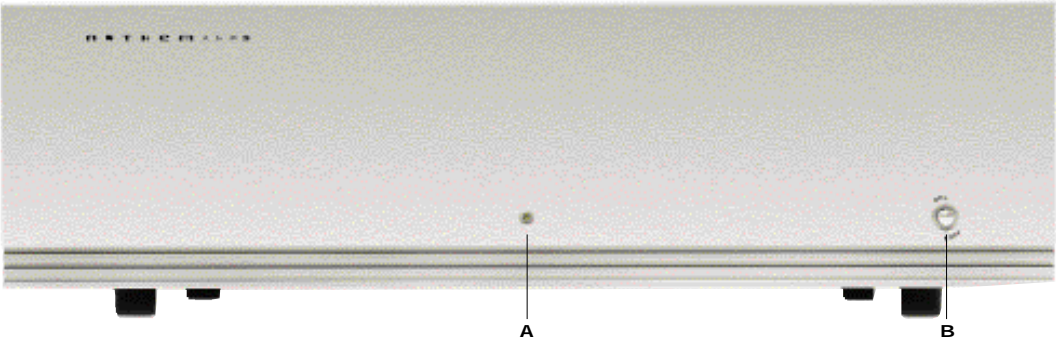


FIGURE 1 Amp 2 front panel.

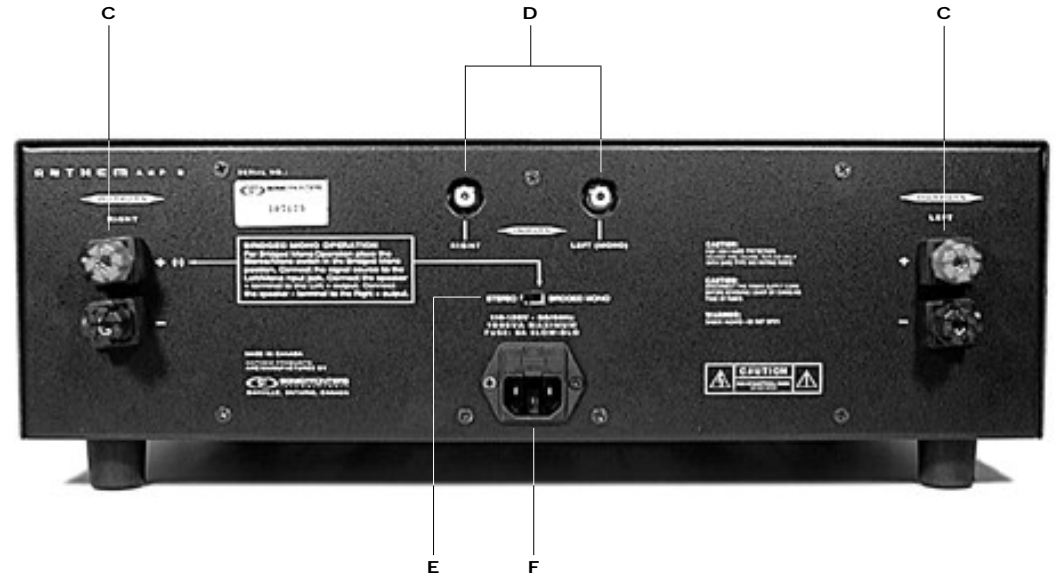


FIGURE 2 Amp 2 rear panel.

CONTROL FUNCTIONS

- A

LED

When the LED is lighted the Amp 2 is “ON”, receiving power from the power supply.
- B

ON-OFF BUTTON

When in the ON position (button depressed), high voltage power is received by the Amp 2 circuitry from the power source. Due to the warm up characteristics of tubes, it will take 30 seconds for the tubes to pass full signal. It is suggested that the Amp 2 remain muted or the Volume turned down for this first minute. When in the OFF position (not depressed), the Amp 2 is not receiving power and is not operational.

CONNECTION FUNCTIONS

- C

SPEAKER CONNECTION POSTS

These 5 way binding posts accept a connection from one pair of speakers. The negative connections are to be made to the black connectors; left speaker to the terminals marked left and right to the terminal marked right. The positive connections are determined by the speakers.
- D

PREAMPLIFIER INPUT

This input accepts RCA input connections from an external preamp or crossover; connect left channel to left channel and right channel to right channel.
- E

STEREO/BRIDGED MONO SWITCH

This switch will allow you to reconfigure your amplifier from Stereo mode to Bridged Mono mode. This also requires a minor speaker reconfiguration (described in the BRIDGED MONO OPERATION SECTION on pg.5). When operated in the Bridged Mono configuration, the amplifier is capable of providing up to 600 watts in to a 8 ohm monophonic load.
- F

DETACHABLE AC POWER CORD SOCKET

Plug the Detachable Power Cord into this socket (see Figure 2). The Amp 2 is factory set for the correct operating voltage for the area in which it is sold (see shipping box for voltage setting). If a different operating voltage is required, please contact an authorized Sonic Frontiers or Anthem dealer, distributor or the factory directly.



WARNING-DISCONNECT THE AC DETACHABLE POWERCORDFROM THE AMP 2 AND WAIT 5 MINUTES BEFORE REMOVING COVER, TUBES OR FUSE.

BREAK-IN TIME
As with all audio electronic products, the ultimate sonic character of the Amp 2 will not be realized until and unless the unit receives a minimum of approximately 70 hours of signal break-in time (i.e. the Amp 2 is on and outputting a signal).

PLACEMENT FOR PROPER VENTILATION
The Amp 2 requires a minimum of 12” (30cm) above and 6” (15cm) at each side, of unobstructed air space. Make sure that the ventilation slots on the top, sides and bottom and the heatsinks on the sides remain unobstructed by any object. Do not stack any other component on top of the Amp 2 or block the ventilation slots in any way. Also, be sure that the Amp 2 is placed on a secure, hard and level surface, **NOT** on carpet.

- SAFETY INSTRUCTIONS**
1. Ventilation - Your Amp 2 generates moderate heat in use, be sure that the ventilation slots and heatsinks in the top cover have at least 12” of unobstructed air space above and around them.
2. Water and Moisture - This product should not be used near water. To prevent fire or shock hazard, do not expose this product to rain or moisture.
3. Heat - This product should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances which produce heat.
4. Power Sources - This product should be connected to an AC power source of the proper rated voltage. The original shipping container will stipulate the AC voltage this unit can operate with correctly.
5. Cleaning - A regular dusting with a soft, non-abrasive cloth will generally keep the finish of the faceplate and chassis looking like new. At no time should you allow any liquid to come in contact with the Amp 2; it may run into the electronic circuitry and cause damage which will not be covered under your warranty.
6. Servicing - Do not open this product. No user serviceable parts inside. Refer servicing to an authorized service technician.
7. Non-Use Periods - The power cord of this product should be unplugged from the outlet when left unused for an extended period of time.
8. Do not remove the Amp 2 covers while the unit is “on”, or connected to an AC power source. Cover screws could fall through the ventilation slots and cause electrical damage to the Amp 2.

PACKING MATERIALS
Please retain all of the packing material and shipping boxes for your Amp 2. They are custom designed to prevent shipping damage from occurring. Sonic Frontiers Int'l will accept no responsibility for any damage occurring to an Amp 2 that is shipped in packing material other than the original Sonic Frontiers packing material.

DISCLAIMER OF LIABILITY
Under no circumstances does Sonic Frontiers Int'l assume liability or responsibility for injury or damages sustained in the use or operation of this equipment or for damages to any other equipment connected to it.

Sonic Frontiers Int'l reserves the right to make design changes or improvements without the obligation to revise prior versions. All specifications are subject to change without notice.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

TROUBLESHOOTING

If at any time the Amp 2 fails to work properly, consult this checklist:

1. Check that the AC Detachable Power Cord is plugged into the Amp 2 Detachable Power Cord Socket (F) and is connected to a live source of AC power. For instance, if using a power bar, check that the bar is turned on.
2. Ensure that all Input and Output connections are secure for a proper electrical contact.

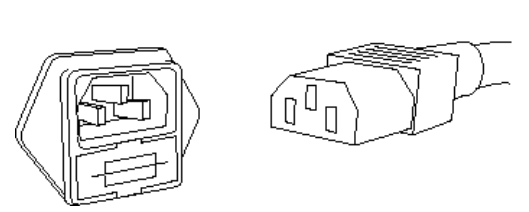


FIGURE 5
 Alignment of the AC power connector and detachable cord.

3. DISCONNECT THE AC POWER CORD, wait 5 minutes and check that:

- A slow-blo fuse (5 x 20mm fuse type), with a rating of 10 Amp/125V (5 Amp/250V for European and Asian versions), is installed in the fuse holder.
- The AC power fuse is intact and has not blown. If the fuse has blown, the thin metal conductor will have melted and the glass may appear “smoked”. If the fuse has blown, replace with a fuse of the same rating (10 Amp/125V slow-blo for 100 to 120 volt countries and 5 Amp/250V slow-blo for 220 to 240 volt countries). (See Figure 6)

NOTE: Under no circumstances should you replace the AC power fuse with one of a higher current rating! Doing so may cause further damage to the Amp 2 and will also void the warranty. In addition, your continued protection from risk of fire or shock would be seriously compromised.

- Ensure the tubes are plugged firmly into their sockets as described in “INSERTION OF THE TUBES”.

4. Be sure the rest of the system is functioning properly (i.e. source unit, power amplifiers, cables and connections, etc.).

5. With tubes, fuses, covers and power cords in place, check that the LED (A) is lighted (glowing light green). If all of the above troubleshooting steps have been followed and the LED is not lighted (remains dark green), contact your dealer or distributor for assistance.

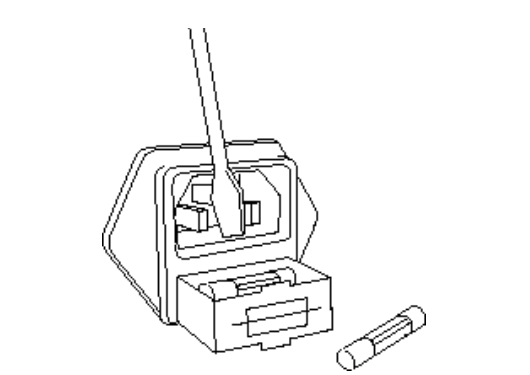



FIGURE 6
 Removal of the fuse holder.



WARNING-DISCONNECT THE AC DETACHABLEPOWERCORD FROM THE AMP 2 AND WAIT 5 MINUTES BEFORE REMOVING COVER, TUBES OR FUSE.

SETTING UP


The Amp 2 comes with two (2) tubes, as follows:

6DJ8/6922 (V1) PHASE INVERTER AND BUFFER


This amplification stage is switched into the circuit path for both channels of the amplifier during bridged/mono operation.

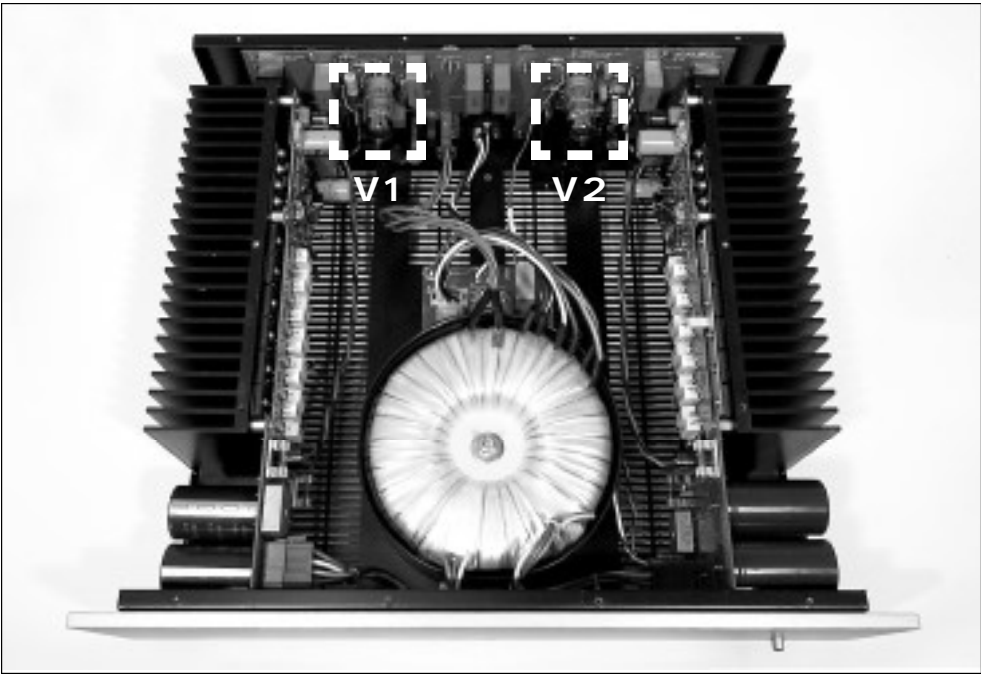
6DJ8/6922 (V2) FIRST STAGE AMPLIFICATION TUBE

The first stage of amplification in the Amp 2 is achieved through the use of this dual triode, amplifying both channels, one per triode section.



WARNING: Tube replacement and bias adjustment involves working with the covers off and power applied, around hazardous and potentially lethal voltages, and should be performed only by qualified personnel with the proper equipment and training.





BRIDGED MONO OPERATION

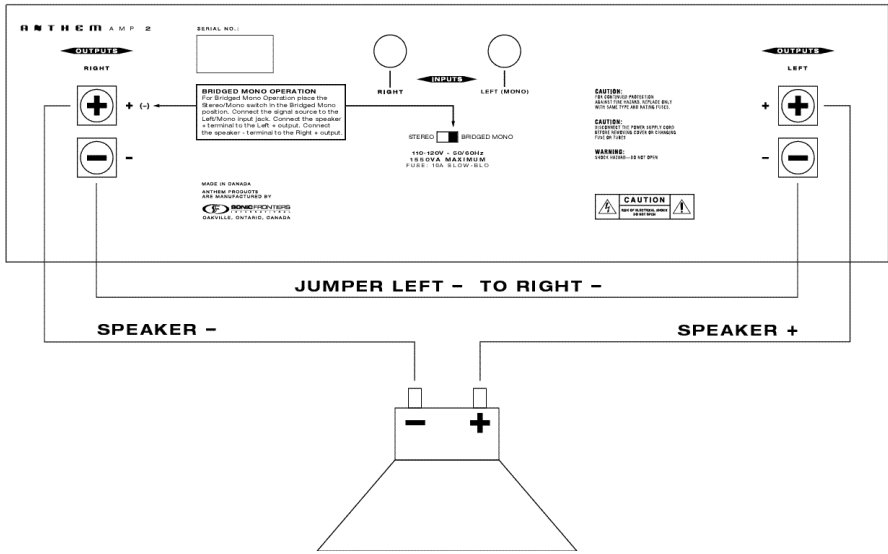
This Amp 2 provides convenient means to operate the amplifier in Bridged Mono mode. This is achieved via a rear panel mounted switch and minor reconfiguration of your speaker connections.

When operated in the Bridged Mono configuration, the amplifier is capable of providing up to 600 watts into a 8 ohm monophonic load.

For Bridged Mono operation, place the Stereo/Bridged Mono switch in the bridged mono position. Connect the signal source to the Left (Mono) input jack. Connect the **SPEAKER +** terminal **TO** the Amp 2's **LEFT +** output binding post. Connect the **SPEAKER -** terminal **TO** the Amp 2's **RIGHT +** output binding post. Refer to fig. 4.

Next, a single conductor of speaker wire, preferably of the same wire type as the speaker cable used, is conected from the Amp 2's **LEFT -** binding post to the **RIGHT -** binding post. No other connections are made to the black **LEFT** and **RIGHT -** binding posts.

FIGURE 4 Bridged Mono wiring diagram.



INSERTION OF THE TUBES

1. Using the screwdriver supplied, remove the cover of the Amp 2. For your convenience, only two of the screws are installed at the factory.

2. When handling the tubes, it is recommended that the cotton gloves provided be worn to prevent skin oils from depositing on the glass surface and possibly causing the tube to become prematurely "gassy", thereby shortening the tube's useful operating life.

3. Noting the location of the tube sockets in the top view photo, inspect the tubes for corresponding labels and markings. Once locations are mapped, take a tube and inspect the pins, noting the larger space between two of the pins (see Figure 2). This space will match with the socket. Insert each tube into the appropriate tube socket, making sure all pins and pin holes are aligned. Do not force the tubes into the sockets. "Rock" the tubes gently while pushing slowly until each tube is firmly seated.

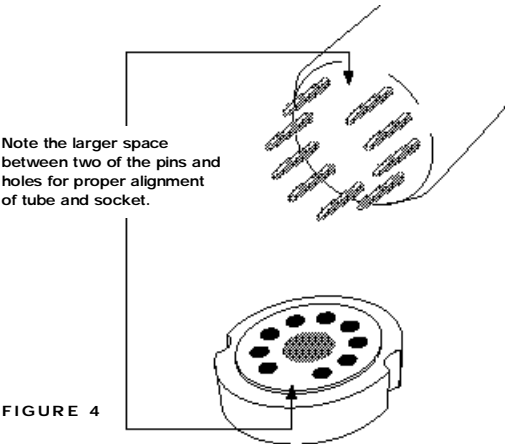


FIGURE 4

OPERATION

Before plugging in the Amp 2, check to see that the unit is configured for the correct AC line voltage for country of use. The operating AC line voltage is indicated on the side of the shipping box. If the Amp 2 is set incorrectly for the country in which it is to be operated, contact the dealer or distributor in your area. If the unit is configured properly, continue with operation.

Connect the Detachable Power Cord to the Amp 2 AC Power Cord Socket (C) (see Figure 4). Plug your Amp 2 into the AC power source.

Connect loudspeakers to the appropriate post as described in the connection section of this manual.

The two remaining connections are made with co-axial cable and RCA connectors to a suitable Preamplifier such as the Anthem Pre 2L.

Connect the pre amp to the Amp 2 Inputs (E); left channel to left channel and right channel to right channel.

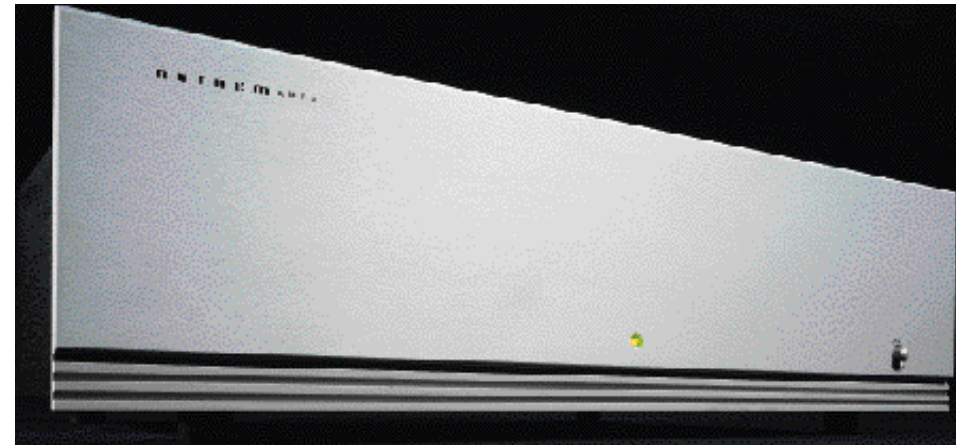
The Amp 2 is now ready for operation. Power the Amp 2 by placing the On-Off button (B) in the ON position. The tubes will take approximately 30 seconds to warm up and then the Amp 2 is functional.

It is recommended that you shut OFF the main power via the Power Switch (B) when not listening.

A N T H E M

A N T H E M AMP 2

OPERATING MANUAL



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